REMARKS/ARGUMENTS

Claims 1-21 are pending in the application, of which claims 14-21 have been withdrawn from consideration as being drawn to a nonelected group. Claim 1 has been amended. Claim 3 has been cancelled and incorporated into claim 1. New claims 22 and 23 have been added.

Non-Final Action

It is noted that the Office Action is not final, as indicated on the Office Action Summary and the Office Communication mailed September 22, 2003 regarding the IDS submitted on September 11, 2003. See page 10, paragraph 8 of the Office Action.

Rejection under 35 U.S.C. 102(a)

Claims 1-6, 9 and 12-13 are rejected as being anticipated by the Jung et al publication ("Jung"), which was available online on September 7, 2000. Applicants have assumed for the purposes of this response that this availability online establishes an effective date of September 7, 2000, but reserve the right to argue otherwise at a later date if necessary. Applicants have submitted a translation of their Priority Document (Korean Application KR1999-54365), along with a statement that it is "a true and correct translation", to establish an earlier priority date of December 2, 1999 under 37 C.F.R 1.55. However, the examiner has noted that certain pages appear to be missing or out-of-order when compared with the certified copy of the Priority Document in the Korean language previously filed by Applicants, and the statement does not state that the "translation of the certified copy is accurate", as required by 37 C.F.R 1.55. Enclosed herewith is a substitute translation of the Priority Document and statement meeting the requirements of 37 C.F.R 1.55. In light of this submission, it is respectfully submitted that applicants are entitled to the benefit of the earlier priority date of December 2, 1999 and that Jung is not available as a reference to support a rejection of the subject claims

under 35 USC 102(a). Accordingly, withdrawal of the rejection is therefore respectfully requested.

Rejection under 35 U.S.C. 102(b)

Claims 1-2 and 5-8 are rejected as being anticipated by Tomihari et al PTO 03-215, a English translation of Japanese Patent Application JP 02-263811 ("Tomihari"), as further evidenced by Morpholine, (Environmental Health Criteria 179, 1996). Tomihari is directed to a method for the production of a coating composition for aqueous protection of various surfaces. The method consists of copolymerizing (a) an α,β-monoethylenic unsaturated acid and (b) an ester of acrylic acid or methacrylic acid in a volatile solvent to form a copolymer (c), neutralizing the acid component of copolymer (c) by adding a volatile alkali (e.g. ammonia or morpholine) and water to form an aqueous solution of copolymer (c), adding (d) an α,β-monoethylenic unsaturated acid and (e) an ester of acrylic acid or methacrylic acid to the aqueous solution of (c), and copolymerizing the solution. The coating composition taught by Tomihari comprises a copolymer mixture consisting of copolymer (c) and the copolymer of (d) and (e), volatile solvent in the amount of 5 wt% or less, and water sufficient to provide a concentration of the non-volatile component of 20%. See Page 7, lines 17-18, and Working Examples 1 and 2 on pages 10-13. As previously noted, Tomihari expressly teaches that "it is necessary for the amount of the volatile alkali added to be an amount corresponding to the amount that is needed for neutralization of the acid component in the aforementioned vinyl type polymer (c)". *Emphasis added* (page 8, lines 6-8), and "Furthermore, when the amount of the volatile alkali is greater than the amount required for neutralization of the acid component in the copolymer (c), dissolving of the α,β-monoethylenic unsaturated acid occurs in the water and copolymerization reaction becomes non-uniform; and this is not desirable." *Emphasis added* (page 8, lines 11-14).

Accordingly, Tomihari teaches that a basic compound (volatile alkali) and water are added to the copolymer (c) to form an intermediate solution of neutralized copolymer (c), and although an excess of basic compound is theoretically possible in the intermediate solution of neutralized copolymer (assuming that excess basic compound is not consumed in the undesirable

dissolution of α,β-monoethylenic unsaturated acid monomer), an excess of basic compound is preferably avoided. Therefore, Tomihari does not teach a coating composition containing a basic compound, as advocated by the examiner, but in its broadest interpretation, only suggests that a basic compound may undesirably be present in an intermediate solution used to prepare the copolymer mixture that is a component of the coating composition.

In contrast to Tomihari, the present invention is directed to an over-coating composition comprising: 1) an overcoating resin derived from poly(acrylic acid / methyl acrylate); 2) a solvent, and 3) a basic compound. In other words, a basic component is an express element in the coating composition of the present invention. The examiner contends that a certain portion of morpholine would remain even after neutralization in the composition of Tomihari. As pointed out above, Tomihari only suggests that an excess of morpholine would remain in the intermediate solution of neutralized copolymer, not the coating composition. The examiner further notes that "the claim language states the instant composition is derived from the components set forth, therefore the use of a base to form the composition is sufficient to meet the claim requirements" (page 5 of office action) and "There is no requirement that a basic compound be present" (page 8 of office action). Applicants respectfully submit that the examiner has misread the claim language in the present application. For example, claim 1 states that the over-coating resin is derived from poly(acrylic acid / methyl acrylate). The over-coating composition, on the other hand, expressly requires that a basic compound be present as a separate element in addition to a solvent and the resin. Claim 1 has been amended to make it perfectly clear what the elements of the coating composition are. Tomihari does not disclose or suggest a basic compound as a separate element of the coating composition. Tomihari only teaches a coating composition comprising a mixture of neutralized vinyl-type copolymers, a volatile solvent and water. As previously noted, claims are anticipated if, and only if, each and every element as set forth in the claim is found in a single reference. In light of the above, applicants respectfully request that the anticipation rejection be withdrawn.

Rejection under 35 U.S.C. 103(a)

Claims 1-2 and 4-11 are rejected as being obvious over Tomihari. First of all, the claims cannot be found obvious unless the prior art teaches or suggests the claimed composition. As discussed above, Tomihari does not teach or suggest that a basic compound is present as a separate element of the coating composition. Rather, Tomihari teaches the use of a basic compound (e.g. morpholine or ammonia) in an intermediate solution in the production of one of the composition's elements (the copolymer mixture). As stated by the examiner (page 8), it is clearly possible that the over-coating resin in the over-coating composition of the present invention could be a copolymer that was the product of neutralizing a copolymer of acrylic acid/alkyl acrylate with an amine as set forth in Tomihari. The examiner further states that such resin "would be capable of being used with further addition of components such as more or different basic compounds to be 'for coating a photoresist to provide a vertical photoresist pattern' ". *Emphasis added.* However, nowhere in Tomihari is there even a suggestion that a basic compound is present in the coating composition as an additional component, as opposed to being present in the intermediate solution used in producing the neutralized copolymer mixture. At most, Tomhari only suggests that greater than the amount of basic compound required for neutralization of the acid component in the copolymer may be undesireably present in the intermediate solution used to form copolymer (c), but even then Tomari suggests that such excess amount may be consumed in the dissolution of the α,β-monoethylenic unsaturated acid monomer before copolymer (c) is formed. Accordingly, Tomihari actually teaches away from the presence of a basic compound in the coating composition that is formed from the mixture of copolymer (c) and the copolymer of monomers (d) and (e). Given this teaching of Tomihari, there would be no motivation for one skilled in the art to include a basic compound in a coating composition. In light of the above, it is well-established that a reference such as Tomihari alone cannot support an prima facie obviousness rejection. Accordingly, withdrawal of the rejection is respectfully requested.

New Claims

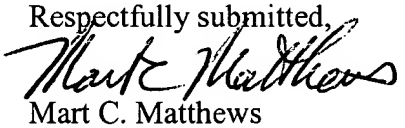
New claims 22 and 23 have been added in an effort to more particularly point out and claim a preferred embodiment of the present invention. Claim 22 expressly provides that a basic compound is present in a quantity sufficient to diffuse into the underlying photoresist layer and react with at least a portion of the acid generated therein. Dependent claim 23 specifically states the preferred range of amounts of basic compound. Support for the claimed effective amount of basic compound is found in the specification, for example, at page 10, lines 2-4 and page 10, line 8 to page 11, line 17. As described in detail above, the prior art, including Tomihari, does not teach or suggest a coating composition containing the specified copolymer, a solvent and a basic compound for any purpose, much less coating compositions specifically adapted for use as an over-coat for a photoresist layer used in photolithography. Tomihari is non-analogous art and provides no guidance whatsoever regarding effective amounts of basic compound in such over-coating compositions. Hence, claims 22 and 23 are patentable over Tomihari and should be in condition for allowance.

CONCLUSION

In view of the foregoing, Applicants believe all claims now pending in this Application are in condition for allowance. The issuance of a formal Notice of Allowance at an early date is respectfully requested.

If the Examiner believes a telephone conference would expedite prosecution of this application, please telephone the undersigned at 303-571-4000.

Respectfully submitted,



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